

Programmatic Biological Assessment for Transformation of the 2nd Brigade 25th Infantry Division (Light) U.S. Army

Island of Hawaii



EXHIBIT 52

April 2003

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

Table 2. Weapons, Ammunition, and Pyrotechnics Currently Used and Potential to Start Wildland Fires, Pohakuloa Training Area, Hawaii.

WEAPON	AMMUNITION	FIRE IGNITION POTENTIAL
Small Arms:	Ball ammunition:	Low
Rifles	.50 caliber	
Pistols	5.56 mm, 7.62 mm, 9 mm	
Machine Guns	20 mm target practice training	
Shot Guns	Buckshot	Low
	Tracer ammunition:	High
	5.56 mm, 7.62 mm, 9 mm	
	40 mm Training Practice (TP) and Illumination (ILL)	
Helicopter Guns	20 mm (ball ammunition)	High ^a
Mortars and Artillery	60 mm HE mortar	Low
	60 mm ILL mortar	High
	81 mm HE, TP mortar	Low
	81 mm ILLM, Smoke (SMK), Red Phosphorous (RP), White Phosphorous (WP)	High
	105 mm HE	Low
	105 mm WP, HC, Smoke, ILLM	High
	155 mm HE, Laser Guided (Copperhead)	Low
	155 mm WP, Smoke, ILLM	High
AT-4 Anti-Tank Weapon	84 mm HE Anti-Tank Rocket	Low
Light Anti-Tank Weapon (LAW)	66 mm HE Anti-Tank Rocket	Low
	35 mm Subcaliber Practice Rocket	Low
Folding Fin Rocket	2.75 mm WP	High
Medium Anti-Tank Weapon	Tactical Missile	High
M47 (Dragon)	Inert Missile	Low
Javelin	Inert Missile	Low
Hellfire Missile	Inert Missile	Low
Shoulder-Launched Multipurpose Assault Weapon (SMAW) - Marines	Launcher Assault Rockets: SMAW Practice SMAW Common Practice	Low
Tube Launched, Optically	Inert	Low

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

Table 2. Weapons, Ammunition, and Pyrotechnics Currently Used and Potential to Start Wildland Fires, Pohakuloa Training Area, Hawaii.

WEAPON	AMMUNITION	FIRE IGNITION POTENTIAL
Tracked, Wire Command Link (TOW)	HE	High
Stinger	Shoulder-fired Heat Seeking Surface-to-Air Missile	Low
Ballistic Aerial Target System (BATS)	Target rocket	Low
Bombs	MK-10, MK-76 (25 lbs. Practice) MK-82 (500 lbs.), MK-83 (1,000 lbs.), MK-84 (2,000 lbs.)	High
Grenades (Hand and Rocket)	M67 Fragmentation, Practice WP, Smoke	Low High
Mines	Claymore Anti-personnel, Land Mines (Anti-tank Mines)	Low Low
Demolition	TNT, C-4 Block, Detonation Cords Bangalore Torpedo	Low Low
Flare	White Parachute	High
<p>^a Helicopter guns were categorized as a "Low" in the ignition system developed for and used in the Biological Assessment for Programmatic Section 7 Consultation on Routine Military Training at Makua Military Reservation by USARHAW Range Division, Wildland Fire, and Environmental Division Staff. At PTA, these munitions are categorized as "High" because it fires in areas with a high vegetative fuel load. Shell casings are known to start fires.</p> <p>High explosive rounds receive a low potential to start fires because on explosion the immediate area of a round is starved of oxygen, resulting in a low potential for ignition. Smoke and illumination rounds have a high potential because there is an exposed flame associated. White phosphorus rounds are highly flammable.</p> <p>Source: PTA Legacy Programmatic BA (PTA Legacy BA 2002).</p>		

2.1.4 Ranges, Training Areas, and Impact Area¹²

PTA has 22 live-fire and 4 non live-fire ranges, 23 training areas, a centrally located impact area, one airfield, and 113 surveyed field artillery and mortar firing points (Figure 3, Table 3). The 27 ranges and artillery firing points are in training areas surrounding the impact area and oriented so 28 munitions are fired into the impact area. There are two exceptions; two rifle ranges currently are oriented to the east along Redleg Trail. The 22 live-fire training ranges are located in the northern and eastern parts of the installation. There are four airborne drop zones (two on PTA, two on leased lands) capable of personnel and equipment airborne operations. Additionally, there

¹² Adapted from 25th ID(L) and USARHAW (2001).

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

Table 6. Ammunition Usage by Live-Fire Range for Current Training, Transformed Training, and Net Difference (Rounds), Stryker Brigade Combat Team, Island of Hawaii, Hawaii.

Range & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference	
	2 Legacy Brigades	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	1 Legacy Brigade & 1 SBCI	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	All Rounds	Tracer Rounds
RANGE 1 Squad Assault														
5.56mm	296,904	14,435	55,491	0	366,830	22,010	292,249	14,435	55,491	0	362,175	21,731	-4,655	-279
7.62mm	37,968	0	15,355	0	53,323	5,332	45,572	0	15,355	0	60,927	6,093	7,604	760
40mm M203 TP	0	0	513	0	513		0	0	513	0	513		0	
40mm M203 Para	0	0	8	0	8		1,155	0	8	0	1,163		1,155	
Pyro-Smoke	372	4	14	0	390		569	4	14	0	587		197	
5.56mm Blank	179,556	0	12,460	0	192,016		262,814	0	12,460	0	275,274		83,258	
7.62mm Blank	17,762	0	600	0	18,362		36,784	0	600	0	37,384		19,022	
Pyro	2,635	0	0	0	2,635		8,217	0	0	0	8,217		5,582	
RANGE 2 Combat Pistol Qualification Course														
9mm	3,408	0	2,610	2,950	8,968		4,304	0	2,610	2,950	9,864		896	
RANGE 3 Rifle Grenade Launcher Range														
40mm HEDP	2,088	185	568	48	2,889		2,534	185	568	48	3,335		446	
40mm M203 TP	0	1,474	1,653	250	3,377		0	1,474	1,653	250	3,377			
40mm Para Flare	0	0	71	0	71		0	0	71	0	71			
40mm MK19 TP	0	0	300	0	300		0	0	300	0	300			
RANGE 4 Rifle Range														
5.56mm	96,460	20,200	36,800	12,500	165,960	9,958	289,940	20,200	36,800	12,500	359,440	21,566	193,480	11,609
RANGE 5 Hand Grenade Familiarization Range														
Practice Grenade	823	0	487	0	1,310		0	0	487	0	487		-823	
Frag Grenade	206	918	769	0	1,893		0	918	769	0	1,687		-206	

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

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	2 Legacy Brigades	Other 25 th ID(L)	USMC	Other Units	Tracer Rounds	1 Legacy Brigade & 1 SBCT	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	All Rounds
RANGE 5A Hand Grenade Confidence Course												
Frag Grenade	0	0	62	0	62	0	0	62	0	62	0	0
RANGE 6 Hand Grenade Qualification Course												
Practice Grenade	823	1,438	77	164	2,502	0	1,438	77	164	1,679		-823
RANGE 7 Small Arms Zero Range												
5.56mm	144,691	14,000	4,100	0	162,791	289,940	14,000	4,100	0	308,040	18,482	8,715
RANGE 8 Sniper												
5.56mm	0	0	250	0	250	0	0	250	0	250		0
7.62mm	1,917	0	1,080	0	2,997	6,071	0	1,080	0	7,151		4,154
.50 Cal.	0	0	200	0	200	0	0	200	0	200		0
5.56mm Blank	0	0	420	0	420	0	0	420	0	420		0
7.62mm Blank	162	0	0	0	162	103	0	0	0	103		-59
RANGE 8, 8A, 8B Multi-Purpose Range												
5.56mm	22,099	20,200	4,500	8,700	55,499						3,330	
7.62mm	3,797	39,200	28,700	1,300	72,997						7,300	
.50 Cal.	2,282	15,700	200	0	18,182						2,546	
40mm MK19	38,102	5,275	0	0	43,377							
TOW Missile	0	15	3	0	18							
105mm HE	0	531	0	0	531							
9mm Tracer	6,461	0	0	0	6,461						6,461	
Range facility would go away with transformation Range replaced by new anti-armor range												

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

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RANGE & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference		
	Other			Tracer Rounds	Total	Other			Tracer Rounds	Total	All Rounds	Tracer Rounds	
	2 Legacy Brigades	25 th ID(L)	USMC			Other Units	1 Legacy Brigade & 1 SBCT	25 th ID(L)					USMC
RANGE 9 Demolition Range													
7.62mm	0	0	100	0	100	10	0	0	100	0	100	10	0
Claymore Mine	0	125	0	0	125		0	125	0	0	125		0
Demolitions	7,416	0	363	129	7,908		9,166	0	363	129	9,658		1,750
Bangalore	0	0	1	0	1		0	0	1	0	1		0
RANGE 10 Platoon Assault Course													
5.56mm	296,904	13,200	51,795	8,159	370,058	22,204	304,993	13,200	51,795	8,159	378,147	22,689	8,089
7.62mm	0	3,900	38,646	8,140	50,686	5,069	37,977	3,900	38,646	8,140	88,663	8,866	37,977
9mm Tracer	0	12	64	0	76	76	0	12	64	0	76	76	0
40mm M203 TP	0	400	140	100	640		0	400	140	100	640		0
Practice Grenade	0	0	15	0	15		0	0	15	0	15		0
Flag Grenade	0	12	230	0	242		0	12	230	0	242		0
Pyro	2,635	0	0	45	2,680		8,288	0	0	45	8,333		5,653
Pyro-Smoke	372	0	18	0	390		569	0	18	0	587		197
5.56mm Blank	179,556	0	14,900	0	194,456		108,333	0	14,900	0	123,233		-71,223
7.62mm Blank	17,762	0	400	0	18,162		36,784	0	400	0	37,184		19,022
RANGE 11 Multi-Purpose Anti-Armor Range													
5.56mm	0	0	4,000	0	4,000	240							
7.62mm	0	36,850	2,000	0	38,850	3,885							
9mm Tracer	0	400	0	0	400	400							
50 Cal.	0	84,984	0	0	84,984	11,898							
AT-4 Rocket	324	39	7	0	370								
2.75" Rocket	0	2,640	0	0	2,640								
Range facility would go away with transformation Range replaced by new battle area course													

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

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Range & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference			
	2 Legacy Brigades	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	1 Legacy Brigade & 1 SBCT	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	All Rounds	Tracer Rounds
Dragon Missile	0	0	11	0	11									
TOW Missile	0	6	0	0	6									
Hellfire Missile	0	86	0	0	86									
105mm HE	0	403	0	0	403									
Range 12 Multi-Purpose Machine Gun Range														
5.56mm	22,099	200	1,100	0	23,399	1,404								
7.62mm	3,797	7,000	4,000	0	14,797	1,480								
.50 Cal.	2,282	3,602	24,555	0	30,439	4,262								
Stinger Missile	0	3	0	0	3									
Range facility would go away with transformation Range replaced by new battle area course														
Range 13 Direct Fire Range														
7.62mm	0	0	0	500	500	50	0	0	0	500	500	50	0	0
.50 Cal.	0	0	5,450	5,000	10,450	1,463	0	0	5,450	5,000	10,450	1,463	0	0
25mm TP	0	0	1,500	0	1,500		0	0	1,500	0	1,500		0	0
40mm M203 TP	0	300	0	0	300		0	300	0	0	300		0	0
40mm M203 HEDP	0	0	11,886	1,820	13,706		0	0	11,886	1,820	13,706		0	0
40mm MK19 TP	0	0	4,938	0	4,938		0	0	4,938	0	4,938		0	0
155mm HE	298	30	29	0	357		298	30	29	0	357		0	0
Range 14 CALFEX														
5.56mm	296,904	0	4,000	0	300,904	18,054	0	0	4,000	0	4,000	240	-296,904	-17,814
60mm HE	0	0	60	0	60		0	0	60	0	60		0	0
7.62mm Blank	17,762	0	2,000	0	19,762		36,681	0	2,000	0	38,681		18,919	
5.56mm Blank	179,556	0	0	0	179,556		262,814	0	0	0	262,814		83,258	
Pyro-Smoke	372	0	0	0	372		569	0	0	0	569		197	

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Range & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference					
	2 Legacy Brigades	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	1 Legacy Brigade & 1 SBCI	Other 25 th ID(L)	USMC	Total	Tracer Rounds	All Rounds	Tracer Rounds			
Pyro	2,635	0	0	0	2,635		8,292	0	0	8,292		5,657				
RANGE 15 Helicopter Gunnery Range																
.50 Cal.	9,130	18,730	0	0	27,860	3,900	35,775	18,730	0	0	54,505	7,631	26,645	3,730		
2.75" Rocket	0	749	0	0	749		0	749	0	0	749		0			
Hellfire Missile	0	95	0	0	95		0	95	0	0	95		0			
RANGE 20 Aviation Aerial Gunnery																
5.56mm	44,198	0	1,300	0	45,498	2,730	21,579	0	1,300	0	22,879	1,373	-22,620	-1,357		
7.62mm	7,594	4,000	0	0	11,594	1,159	15,191	4,000	0	0	19,191	1,919	7,597	760		
.50 Cal.	9,130	0	5,597	0	14,727	2,062	35,775	0	5,597	0	41,372	5,792	26,645	3,730		
Dragon Missile	0	0	2	0	2		0	0	2	0	2		0			
TOW Missile	0	0	7	0	7		0	0	7	0	7		0			
Pyro	0	0	15	0	15		0	0	15	0	15		0			
Anti-Armor Live-Fire and Tracking Range (AALFTR)																
TOW						Range does not currently exist					21	0	0	21	na	
JAVELIN						Range does not currently exist					23	0	0	23	na	
Battle Area Course (BAX)																
5.56mm						Range does not currently exist					1,601K	0	0	1,601K	96,060	na
7.62mm						Range does not currently exist					201,627	0	0	201,627	20,163	na
9mm Tracer						Range does not currently exist					19,284	0	0	19,284	19,284	na
40mm M203 TP						Range does not currently exist					15,367	0	0	15,367		na
40mm Wh Star						Range does not currently exist					2,888	0	0	2,888		na
40mm MK19 TP						Range does not currently exist					12,972	0	0	12,972		na
Practice Grenade						Range does not currently exist					10,657	0	0	10,657		na

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

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RANGE & Ammunition	Projected Un-Transformed (Current)					Projected Transformed					Net Difference		
	Other 25 th				Tracer Rounds	1 Legacy Brigade & 1 SBCT	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	All Rounds	Tracer Rounds
	2 Legacy Brigades	ID(L)	USMC	Other Units									
.50 Caliber						143,099	0	0	0	143,099	20,034	na	
105mm TPDS						972	0	0	0	972		na	
105mm TP-T						1,944	0	0	0	1,944		na	
105mm HEP-TP-T						2,592	0	0	0	2,592		na	
105mm Canister						972	0	0	0	972		na	
Volcano						6	0	0	0	6		na	
Claymore Mine						466	0	0	0	466		na	
Mortar Firing Points													
60mm HE	2,884	0	1,032	200	4,116	2,884	0	1,032	200	4,116		0	
60mm Illum	275	0	140	0	415	275	0	140	0	415		0	
60mm WP	292	8,047	85	578	9,002	292	8,047	85	578	9,002		0	
81mm HE	1,976	0	2,415	1,046	5,437	4,504	0	2,415	1,046	7,965		2,527	
81mm Illum	270	0	213	302	785	610	0	213	302	1,125		340	
81mm WP	324	0	293	197	814	648	0	293	197	1,138		324	
120mm HE	0	0	0	0	0	1,066	0	0	0	1,066		1,066	
120mm Illum	0	0	0	0	0	216	0	0	0	216		216	
120mm WP	0	0	0	0	0	317	0	0	0	317		317	
Artillery Firing Points													
105mm HE	0	6,448	31	2,000	8,479	0	6,448	31	2,000	8,479		0	
105mm Illum	0	105	0	62	167	0	105	0	62	167		0	
105mm WP	0	34	0	0	34	0	34	0	0	34		0	
155mm HE	2,686	900	2,696	215	6,497	2,686	900	2,696	215	6,497		0	
155mm Illum	270	69	292	0	631	270	69	292	0	631		0	

Programmatic Biological Assessment
Stryker Brigade Combat Team

Island of Hawaii

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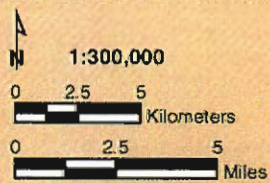
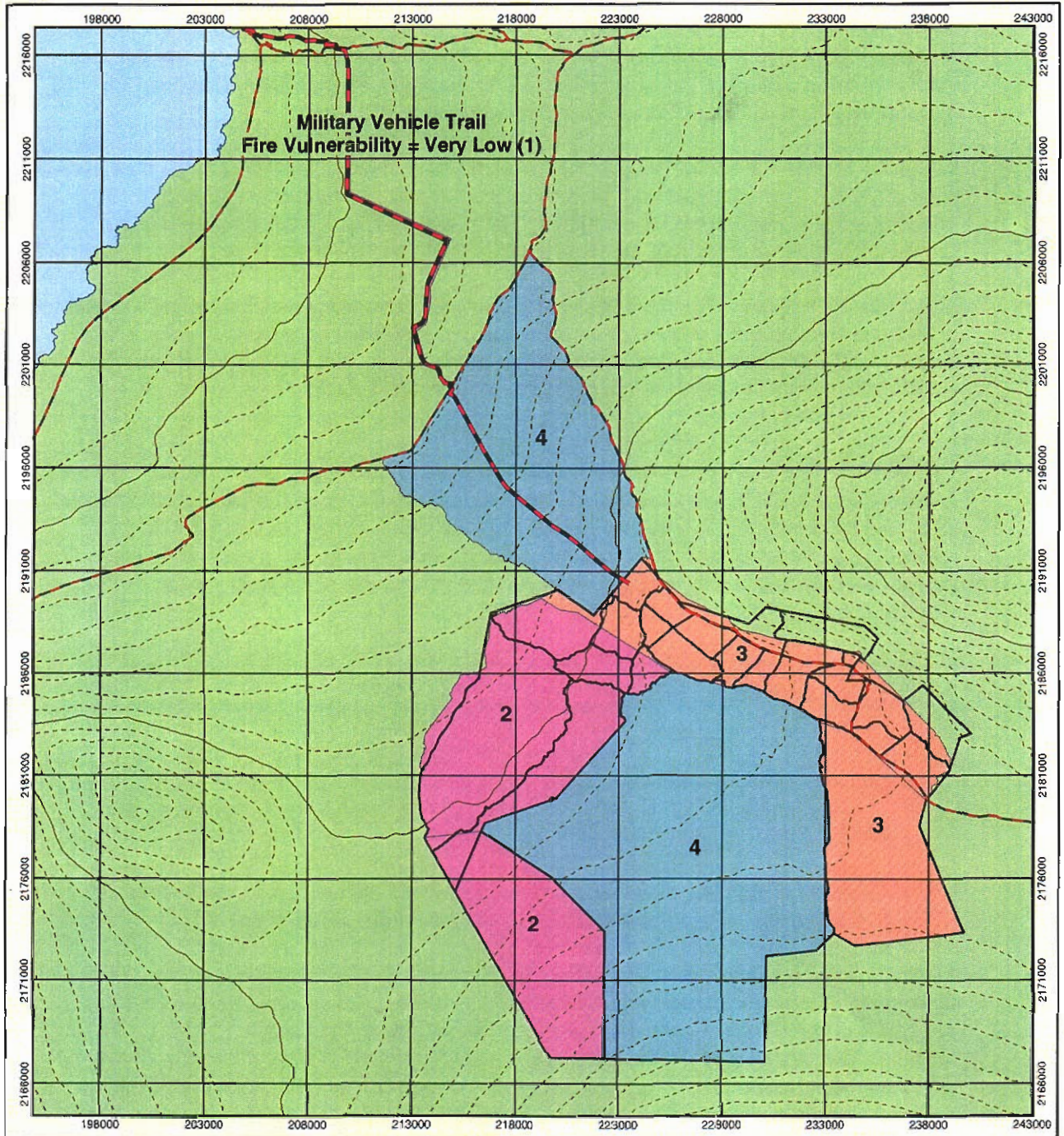
RANGE & Ammunition	Projected Un-Transformed (Current)						Projected Transformed						Net Difference	
	2 Legacy Brigades	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	1 Legacy Brigade & 1 SBCT	Other 25 th ID(L)	USMC	Other Units	Total	Tracer Rounds	All Rounds	Tracer Rounds
155mm WP	124	30	113	0	267		124	30	113	0	267		0	
155mm Copperhead	2	12	0	0	14		2	12	0	0	14		0	
Maneuver Areas														
Pyro	5,259	0	0	0	5,259		9,094	0	0	0	9,094		3,834	
Pyro-Smoke	643	0	0	0	643		569	0	0	0	569		-74	
5.56mm Blank	179,556	0	0	0	179,556		438,024	0	0	0	438,024		258,468	
7.62mm Blank	17,762	0	0	0	17,762		61,306	0	0	0	61,306		43,544	
.50 Cal. Blank	1,530	0	0	0	1,530									

Source: John Gallup and Associates. Training Description. Version 5.3

This comparison of current and transformed ammunition usage on PTA is projected for FY 05 based on Draft TRAC (Standards in Training Commissions) information. Information for "Other 25ID", "USMC", and "Other" was compiled from 2001 RFMSS data and is used as a constant for both Un-Transformed and Transformed projections, except where use by these units is altered by changes due to range demolition/reconfiguration related to construction of new ranges (John Gallup and Associates product 10/16/02).

SBCT Training Fire Vulnerability **Stryker Brigade Combat Team -- Island of Hawaii**

Figure 17



Data Source: Center for Environmental Management of Military Lands

Fire Risk

- Low (2)
- Moderate (3)
- High (4)

- 500' Contours
- Index Contours
- Preferred Military Vehicle Trail
- Primary Roads

Legend

- Training Areas